

in some places 16 inches deep, many stones being as large as partridge eggs. Fall River, Mass., 15th, greatest fall of hail that has been experienced here for years.

RELATIVE HUMIDITY.

The percentage of mean relative humidity for the month ranges as follows: New England, from 71 to 86; Middle Atlantic states, 66 to 78; South Atlantic states, 71 to 81; Florida peninsula, 74 to 79; East Gulf states, 72 to 78; West Gulf states, 69 to 81; Rio Grande valley, 67 to 83; Ohio valley and Tennessee, 67 to 77; Lower Lake region, 65 to 76; Upper Lake region, 75 to 83; extreme Northwest 69 to 87; Northern slope, 58 to 73; Middle slope, 49 to 76; Southern slope, 52 to 70; Southern plateau, 42 to 61; Middle plateau, 40 to 65; Northern plateau, 69 to 85; North Pacific coast region, 82 to 86; Middle Pacific coast region, 56 to 64; South Pacific coast region, 39 to 61. *High stations* report the following percentages not corrected for altitude: Pike's Peak, 76.2; Denver, 60.2; Cheyenne, 58.2; Mt. Washington, 86.0.

WINDS.

The prevailing winds during the month of November, 1881, at Signal Service stations, are shown on chart No. II, by arrows, which fly with the wind. In the South Atlantic and East Gulf states, *northeasterly*; in the Middle Atlantic states and New England, *northwesterly*; in the Lake region, Tennessee and Ohio valley, *southerly*; in the Upper Mississippi and Missouri valleys, *northwesterly*; in the Western Gulf states, including Texas, *southerly* and *northerly*; in the Rocky Mountain and Plateau regions, *variable*; in the North Pacific coast region, *southerly*; in the Middle and South Pacific coast regions, *north to west*.

Total Movements of the Air.—The following are the largest total movements at Signal Service stations: Mt. Washington, 31,375 miles; Pike's Peak, 17,519; Del. Breakwater, 12,861; Cape May, 12,675; New Shoreham, R. I., 12,501; Wood's Holl, Mass., 12,370; Thatcher's Island, Mass., 11,337; Sandusky, 11,250; Sandy Hook, 11,143; Grand Haven, 11,044; Indianola, 10,886; Erie, 10,538; Kitty Hawk, 10,529; Rochester, 10,338; Port Eads, La., 10,320; Milwaukee, 10,128; Buffalo, 10,114; Madison, Wis., 9,884; Champaign, Ill., 9,808; Cape Henry, Va., 9,712; Hatteras, N. C., 9,611; Portsmouth, N. C., 9,398; Barnegat, N. J., 9,379; Cleveland, 9,283; Alpena, Mich., 9,179; Galveston, 9,178; Port Huron, 9,011; North Platte, 8,927; Key West, 8,828; Moorehead, Minn., 8,810; St. Vincent, Minn., 8,722; St. Louis, 8,618; Omaha, 8,581; Huron, Dak., 8,499; Dodge City, 8,402; Ft. Stevenson, Dak., 8,378; Cheyenne, 8,350; Burlington, Vt., 8,346; Marquette, 8,329; Ft. Sill, Ind. T., 8,323; Detroit, 8,315; Oswego, 8,121; Newport, R. I., 8,099; Toledo, 8,090. The *smallest* are Missoula, Mont., 935; La Mesilla, N. M., 1,082; Lynchburg, 1,378; Phoenix, Ariz., 1,511; Silver City, N. M., 1,526; Visalia, Cal., 1,887; Salt Lake City, 2,205; Uvalde, Tex., 2,325; Augusta, Ga., 2,382; Lewiston, Idaho, 2,390; Spokane, Wash. T., 2,624; Laredo, Tex., 2,645; Red Bluff, 2,858; Boise City, 2,864; Florence, Ariz., 2,934.

High Winds.—On summit of Mt. Washington the following high velocities were reported: 108 miles, NW., 10th; 100 miles, NW., 20th; 98 miles, NW., 9th, 18th; velocities exceeding 50 miles per hour were reported from 2nd to 22d and from 24th to 30th. On summit of Pike's Peak, a maximum velocity of 68 miles was reported as follows: from NE., 11th; SW., 12th, 16th; velocities exceeding 50 miles per hour were reported from 4th to 6th, 11th, 12th, 14th to 16th, 18th, 19th, 24th. Other stations reporting velocities of 50 miles per hour or over are as follows: Ft. Custer, Mont., 53 miles, NW., 12th; North Platte, 50, NW., 4th; Ft. Buford, 50, W., 13th; Bismarck, 50, W., 13th; Indianola, 55, N., 2d; Sandusky, 56, W., 14th; Thatcher's Island, Mass., 56, NW., 11th; Wood's Holl, Mass., 50, NW., 20th; Cape May, maximum velocity, 66, NW., 20th, 52, NW., 4th, 15th, and 55, NW., 24th; Delaware Breakwater, 54, NW., 24th; Cape Henry, Va., 52, NW., 3d, 4th; Kittyhawk, 52, N., 4th.

Local Storms.—Near Fort Ridgely, Minn., 25th, very violent tornado moved from southwest to northeast causing great destruction of property. A large black, funnel-shaped cloud approached rapidly from the west and when near by, the centre of the cloud appeared to change its color to a dirty green and purple; lightning flashed and heavy thunder rolled. While the dark cloud was passing the wind whirled with indescribable rapidity; one man was thrown against a tree and his side smashed; another was carried high in the air and thrown lifeless on the ground, his clothing being entirely stripped from his body. Wild ducks, prairie chickens and domestic fowls were killed in considerable numbers and entirely stripped of feathers; in some instances harness was completely torn from the backs of horses and the animals killed or badly wounded. All houses was in the track of the storm were entirely demolished. Fayette, Miss., 11th, at a point four miles east of station a violent tornado suddenly made its appearance in a gentleman's yard. Every tree was blown down and many were scattered in all directions. In the house, crockery, etc., was broken, but the building, a strong frame, was not injured, the doors and windows being open. An eye witness states that the air was filled with flying timber. The tornado passed off very quickly, and lifted from the ground, doing no other damage for a considerable distance until it again descended